

ANTIMONY

(Data in metric tons of antimony content unless otherwise noted)

Domestic Production and Use: There was no antimony mine production in the United States in 2012. Primary antimony metal and oxide was produced by one company in Montana, using foreign feedstock. The estimated distribution of antimony uses was as follows: flame retardants, 35%; transportation, including batteries, 29%; chemicals, 16%; ceramics and glass, 12%; and other, 8%.

Salient Statistics—United States:	2008	2009	2010	2011	2012^e
Production:					
Mine (recoverable antimony)	—	—	—	—	—
Smelter:					
Primary	W	W	W	W	W
Secondary	3,180	3,020	3,520	3,230	3,100
Imports for consumption	29,000	20,200	26,200	23,500	24,000
Exports of metal, alloys, oxide, and waste and scrap ¹	2,200	2,100	2,550	4,170	3,900
Consumption, apparent ²	30,400	21,200	27,000	22,700	23,100
Price, metal, average, cents per pound ³	280	236	401	650	602
Stocks, yearend	1,490	1,420	1,560	1,430	1,520
Employment, plant, number ^e	10	15	15	20	20
Net import reliance ⁴ as a percentage of apparent consumption	90	86	87	86	87

Recycling: Traditionally, the bulk of secondary antimony has been recovered as antimonial lead, most of which was generated by and then consumed by the battery industry. Changing trends in that industry in recent years, however, have generally reduced the amount of secondary antimony produced; the trend to low-maintenance batteries has tilted the balance of consumption away from antimony and toward calcium as an additive.

Import Sources (2008–11): Metal: China, 74%; Mexico, 12%; Peru, 3%; and other, 11%. Ore and concentrate: Italy, 45%; Bolivia, 26%; China, 23%; and other, 6%. Oxide: China, 63%; Mexico, 15%; Belgium, 9%; Bolivia, 9%; and other, 4%. Total: China, 67%; Mexico, 15%; Belgium, 7%; Bolivia, 4%; and other, 7%.

Tariff: Item	Number	Normal Trade Relations 12–31–12
Ore and concentrates	2617.10.0000	Free.
Antimony oxide	2825.80.0000	Free.
Antimony and articles thereof, Unwrought antimony; powder	8110.10.0000	Free.
Waste and scrap	8110.20.0000	Free.
Other	8110.90.0000	Free.

Depletion Allowance: 22% (Domestic), 14% (Foreign).

Government Stockpile: None.

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Events, Trends, and Issues: In 2012, antimony production from domestic source materials was derived mostly from recycling lead-acid batteries. Recycling supplied only a minor portion of estimated domestic consumption, and the remainder came from imports. Only one domestic smelter in Montana continued to make antimony products. The company that operated the domestic smelter progressed further with the development of its Mexican operations. Its 150-ton Puerto Blanca mill and Madero smelter were being supplied by more than seven Mexican antimony mines. Four furnaces were operating at the Mexican smelter, and three of them were being retrofitted for increased production. They were designed to handle low-grade antimony oxide ore, which predominates in Mexico. The Mexican combination flotation and gravity mill was delivering concentrates to the smelter. The mill recovered the sulfides and some of the oxides not recoverable by flotation methods. A large precrusher was being installed to handle oversize rock from the Los Juarez property.

In China, the world's leading antimony producer, the Government continued to shut down antimony mines and smelters in an effort to control environmental issues and resolve safety problems. The price of antimony remained in a fairly narrow band during 2012. The price started the year at about \$5.70 per pound, rose to \$6.30 per pound by early July, and finished September at about \$5.80 per pound. Prices continued to be influenced by production constrictions in China, combined with moderate world consumption increases.

Several new antimony mine projects were being evaluated and developed in Armenia, Australia, Canada, China, Georgia, Italy, Laos, Russia, and Turkey.

World Mine Production and Reserves: The reserves figure for South Africa was changed based on new information from official Government sources in that country.

	Mine production		Reserves ⁵
	<u>2011</u>	<u>2012^e</u>	
United States	—	—	—
Bolivia	3,900	4,000	310,000
China	150,000	150,000	950,000
Russia (recoverable)	3,300	3,300	350,000
South Africa	4,700	5,000	27,000
Tajikistan	2,000	2,000	50,000
Other countries	<u>14,100</u>	<u>13,100</u>	<u>150,000</u>
World total (rounded)	178,000	180,000	1,800,000

World Resources: U.S. resources of antimony are mainly in Alaska, Idaho, Montana, and Nevada. Principal identified world resources are in Bolivia, China, Russia, and South Africa. Additional antimony resources may occur in Mississippi Valley-type lead deposits in the Eastern United States.

Substitutes: Compounds of chromium, tin, titanium, zinc, and zirconium substitute for antimony chemicals in paint, pigments, and enamels. Combinations of cadmium, calcium, copper, selenium, strontium, sulfur, and tin can be used as substitutes for hardening lead. Selected organic compounds and hydrated aluminum oxide are widely accepted substitutes as flame retardants.

^eEstimated. W Withheld to avoid disclosing company proprietary data. — Zero.

¹Gross weight, for metal, alloys, waste, and scrap.

²Domestic mine production + secondary production from old scrap + net import reliance.

³New York dealer price for 99.5% to 99.6% metal, c.i.f. U.S. ports.

⁴Defined as imports - exports + adjustments for Government and industry stock changes.

⁵[See Appendix C for resource/reserve definitions and information concerning data sources.](#)